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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,715	11/15/2001	Ernest R. Siler	DP-305919	3513

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EXAMINER

WILLIAMS, THOMAS J

ART UNIT PAPER NUMBER

3683

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/001,715

Applicant(s)

SILER ET AL.

Examiner

Thomas J. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-18 is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Acknowledgment is made in the receipt of the amendment filed February 5, 2004.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,454,042 to Yoshida et al. in view of US 3,290,077 to La Barge.

Re-claims 1, 3, 7 and 9, Yoshida et al. teaches a ball-nut assembly comprising: a ball nut 22 including a radial through slot 30, the nut has an outer surface defining a first portion, a ledge (formed at recess portions 39); a crossover member 24 has a flange 38 supported against the ledge and a crossover grooved member portion 28 disposed in the slot, Yoshida et al. teaches that the flange portion 38 can be crimped to engage the recess portion (which is interpreted to mean ductilely elongated to engage the nut, see column 6 lines 7-12), the flange is supported against

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radially inward movement by the ledge even without the ductilely elongated portion (due to element 38 engaging ledge 39), wherein every part of the crossover grooved portion 28 is disposed radially inward of the ledge 39, see figure 2B; a ball screw is disposed inside the ball nut; a plurality of balls contact the crossover member.

However, Yoshida et al. fails to teach the method of crimping the crossover member to the ball nut, specifically if the crimped portion of the crossover member engages an undercut formed in the outer surface of the ball nut.

La Barge teaches a method of crimping two elements together to form a relatively strong connection. The method utilizes an undercut wall formed on the receiving element. The undercut area receives the crimped portion of the insert element to form a strong joint connection. It would have been obvious to one of ordinary skill in the art to have utilized the teachings of La Barge regarding an undercut area receiving a crimped portion of an insert element when having crimped the crossover member to the ball nut of Yoshida et al., thus forming a strong joint connection between the crossover member and the ball nut. The ductilely elongated portions would have engaged the undercut wall at least at one end portion as taught by La Barge, as recited in claims 3 and 9.

Re-claims 2 and 8, the ledge has an annular shape, surrounds the slot and annularly supports the flange.

Re-claims 4 and 10, the first portion has a cylindrical shape.

Re-claims 5 and 11, the crossover member has a flat outward facing portion disposed below the outer surface of the ball nut, see figure 2B.

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Re-claims 6 and 12, the ball nut assembly of Yoshida et al. is utilized in the vehicle arts. However, Yoshida et al. fails to teach the ball nut assembly used in a vehicle brake system. As admitted by the applicant, the use of ball nut assemblies is known in the brake arts, as noted in the background. The examiner takes official notice that it would have been obvious to one of ordinary skill in the art to have utilized the ball nut assembly of Yoshida et al. as modified by La Barge in a vehicle brake system, specifically an electrically operated brake system, thus reducing costs and assembly time for the brake system.

Allowable Subject Matter

5. Claims 13-18 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to anticipate or render obvious a method of making a ball nut assembly by disposing a crossover member from outside the ball nut into a through slot, wherein a flange of the crossover member is ductilely elongated or staked to engage an undercut formed on the ball nut.

Response to Arguments

7. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Abolins teaches a crimping method comprising an undercut wall portion.

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9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Thomas Williams whose telephone number is (703) 305-1346. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder, can be reached at (703) 308-3421. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

TJW

April 16, 2004

THOMAS WILLIAMS
PATENT EXAMINER

Thomas Williams

4-16-04

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